National Aeronautics and
Space Administration

Office of Inspector General
Washington, DC 20546-0001

JAN 1 9 2006

TO: Chief Information Officer

FROM: Assistant Inspector General for Auditing

SUBJECT: Review of the Use of Voice Over Internet Protocol at NASA (Assignment No. A-05-025-00)

The NASA Office of Inspector General is terminating the subject assignment because the NASA Office of the Chief Information Officer (OCIO) has been responsive overall to our concerns. We began the review in August 2005 to determine to what extent NASA was using Voice Over Internet Protocol (VOIP) and whether its implementation, including security measures, complied with Federal requirements.

Early in our review, we noted that NASA-wide requirements and guidance for implementing VOIP systems were not in place. Of particular concern, while multiple NASA Centers had begun implementing or were considering implementation of VOIP systems, we found limited, if any, coordination between those locations. Requirements and guidance for the coordination of NASA-wide VOIP implementations are critical to ensure that compatible technologies are used and that NASA's IT architecture is adhered to. Such coordination should result in a more reliable, robust, and cost-effective telephone system. Additionally, the NASA OCIO had not issued requirements for securing VOIP systems. As a result, we sent the Chief Information Officer a memorandum on September 30, 2005, which recommended that the OCIO issue the following:

1. Requirements and guidance for implementations of VOIP NASA-wide, including the coordination of implementations to ensure the use of compatible technologies and adherence to NASA's internet technology architecture.

2. Requirements and guidance for securing NASA's VOIP systems.

The Chief Information Officer's October 14, 2005, response (Enclosure 1) stated that management concurred with the recommendations and that the NASA OCIO would issue a directive to all NASA Centers concerning VOIP implementation and security. On October 25, 2005, the NASA Chief Information Officer issued a memorandum to all NASA Centers (Enclosure 2), which halted all work on VOIP implementations pending a review for compatibility, architecture adherence, and security. Also, the OCIO has incorporated VOIP security into the draft NASA Procedural Requirements 2810, "Security of Information Technology," which is now in the review process.

Based on these actions and our meetings with the OCIO, the latest of which took place on January 5, 2006, we concluded that the OCIO is taking responsive action to our recommendations and is moving in the right direction. All new VOIP implementations will require the approval of the NASA OCIO. In addition, a VOIP "community of interest," with representation from all NASA Centers and the NASA Integrated Services Network (NISN) began holding biweekly meetings on January 11, 2006. The community of interest will define an Agencywide architecture for VOIP at NASA. As part of our ongoing effort with the OCIO, we have been invited to review plans made by the community of interest and to monitor the implementation of the VOIP architecture.

Although we are terminating our review of VOIP, we will continue to work with the OCIO and the VOIP community of interest, and we will conduct follow-up activities on the recommendations we made in our September 30 memorandum.

We appreciate the courtesies and cooperation provided to the staff during this review. If you have any questions, or would like to discuss this matter further, please contact Ms. Dahnelle Payson, Deputy Assistant Inspector General for Auditing, at 202-358-2567 or dahnelle.payson@nasa.gov or Mr. Steve Clevenger, the Project Manager, at 202-358-2309 or steven.m.clevenger@nasa.gov.

Evelyn R. Klemstine

2 Enclosures

cc:
Director, Management Systems Division

National Aeronautics and
Space Administration

Headquarters
Washington, DC 20546-0001

October 14, 2005

Office of the Chief Information Officer

TO: Office of Inspector General

FROM: NASA Chief Information Officer

SUBJECT: Response to Recommendations Regarding NASA-Wide Policy for Voice
over Internet Protocol (VoIP) for Audit A-05-025-00, "Use of Voice Over
Internet Protocol at NASA"

Following are management comments based on a memo sent September 30, 2005
regarding Audit A-05-025-00, "Use of Voice Over Internet Protocol at NASA," with the
purpose of identifying the actions that will be taken concerning the recommendations
made by the OIG.

OIG Recommendations for Corrective Action:

1. Requirements and guidance for implementation of VoIP NASA-wide, including the
coordination of implementation to ensure the use of compatible technologies and
adherence to NASA's IT architecture.

OCIO Response:

Concur: The Office of the Chief Information Officer (OCIO) will issue a notice
by October 25, 2005, to Center CIOs to stop all work on VoIP implementation
until a review has been conducted by the OCIO for compatibility, architecture
adherence, and security. The OCIO will issue a letter to all NASA Centers
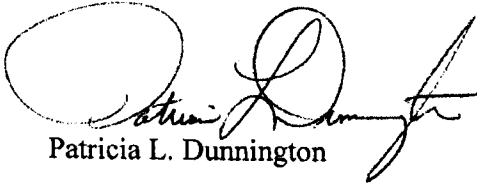outlining a NASA-wide policy, including requirements and guidance by January
15, 2006.

2. Requirements and guidance for securing NASA's VoIP systems.

OCIO Response:

Concur: The OCIO will issue a notice by October 25, 2005 to Center CIOs to
stop all work on VoIP implementations until a review has been conducted by the
OCIO for compatibility, architecture adherence, and security. Also, the OCIO has
incorporated VoIP security into the draft NPR 2810, "Security of Information

Technology," now in the review process. All requirements and guidance has been drawn directly from the National Institute of Standards and Technology (NIST) Specieal Publication (SP) 800-58, "Security Considerations for Voice Over IP Systems" (January 2005). The revised NPR 2810 is expected to be released January 31, 2006.

If you have any questions relating to this document, please direct them to Scott Santiago at 202-358-1377 or John McManus at 202-358-1802.

Patricia L. Dunnington

National Aeronautics and
Space Administration

Headquarters
Washington, DC 20546-0001

October 25, 2005

Office of the Chief Information Officer

Reply to Attn of:

TO: Center Chief Information Officers

FROM: NASA Chief Information Officer

SUBJECT: Voice Over Internet Protocol (VoIP) Implementation Review

Responding to a memo of September 30, 2005 from the NASA Office of Inspector
General regarding Audit A-05-025-00, "Use of Voice Over Internet Protocol at NASA,"
the NASA Office of the CIO committed to ensuring VoIP implementations throughout
the Agency are compatible, adhere to architecture requirements, and demonstrate the
appropriate level of security. To prevent incompatible and/or insecure VoIP
implementations, all Center CIOs with current or imminent VoIP implementations are
required to contact John McManus by October 31, 2005 to schedule a review of their
VoIP implementation. No new VoIP capability is to be implemented until an appropriate
review has been conducted by John McManus.

If you have any questions relating to this, please direct them to Scott Santiago at 202-
358-1377 or John McManus at 202-358-1802.

Patricia L. Dunnington